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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,714	10/22/2003	Dennis P. Parazak	200300880-1	6863

22879 7590 12/12/2007

HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER	
SHAH, MANISH S	
ART UNIT	**PAPER NUMBER**
2853	

NOTIFICATION DATE	DELIVERY MODE
12/12/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JERRY.SHORMA@HP.COM
mkraft@hp.com
ipa.mail@hp.com

TIT

Office Action Summary	Application No.	Applicant(s)	
	10/691,714	PARAZAK ET AL.	
	Examiner	Art Unit	
	Manish S. Shah	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 September 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8/21/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shioya et al.(# US 6095636) in view of Lavery et al. (# WO 0037258).

Shioya et al. discloses a method of making a medium, a means for making a substrate and a print head with orifice plate including:

- An orifice plate (element: 12; figure: 1) comprising at least two orifices (Y, M, C, S, K); wherein at least one orifice prints a first reactive ink (processing liquid); wherein at least one other orifice prints a fixer or a second reactive ink (ink composition); wherein the first reactive ink and the second reactive ink react to form a solid precipitate (column: 8, line: 24-65).

- The orifice plate comprises at least two arrays of orifices and wherein one array prints the reactive ink and another array prints the fixer or the second reactive ink (figure: 1).

- The at least one other orifice prints a fixer (third reactive ink) (figure: 1).

- The printing is controlled by an electronic device (figure: 1-3).

Matsumoto et al. differs from the claim of the present invention is that:

- The fixer comprises a positively charged species, wherein the positively charged species is a polymer.
- The fixer is selected from the group consisting of poly(ethyleneimine).
- The fixer comprises polyethyleneimine and poly(biguanidine) or salts thereof.
- The ink includes at least two dyes.

Lavery et al. teaches that to get the sharp, high water-fastness, light-fastness and high optical density printed image, the inkjet printing process includes applying ink composition and applying fixing composition, wherein ink includes at least two dyes (page: 8, line: 5-10; 19-21). They also teach that the fixer comprises a positively charged species, wherein the positively charged species is a polymer (see Abstract; page: 3, line: 25-30).

- The fixer is selected from the group consisting of poly(ethyleneimine) (page: 3, line: 34).
- The fixer comprises polyethyleneimine and poly(biguanidine) or salts thereof (page: 3, line: 10-25).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the first reactive ink and second reactive ink of Shioya et al. by the aforementioned teaching of Lavery et al. in order to have the sharp, high water-fastness, light-fastness and high optical density printed image.

Shioya et al. and Lavery et al. explicitly didn't discloses that the solid precipitate is redispersible or redissolvable in at least one of the first reactive ink, or the second reactive ink.

However, Shioya et al. teaches all the limitation of the inkjet printer using print head with one orifice plate and ejecting processing liquid and ink composition, and solidify, and Lavery et al. teaches the processing liquid and ink composition having the same chemical as applicant claimed invention. Therefore it will perform the same function as applicant claimed. Therefore, it would have been obvious at the time of invention to modify the ink composition and processing liquid of Shioya et al. by the aforementioned teaching of Lavery et al.

2. Claims 1-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al.(# US 2002/0071014) in view of Lavery et al. (# WO 0037258).

Matsumoto et al. discloses a method of making a medium, a means for making a substrate and a print head with orifice plate including:

- An orifice plate (element: 17; figure: 18; [0121]) comprising at least two orifices (element: 13a, 13 b; figure: 18); wherein at least one orifice prints a first reactive ink (performance improving liquid); wherein at least one other orifice prints a fixer or a second reactive ink (ink composition); wherein the first reactive ink and the second reactive ink react to form a solid precipitate ([0122]); and wherein the solid precipitate is redispersible or redissolvable in at least one of the first reactive ink, or the second reactive ink (recovering operation) ([0122]).

• The orifice plate comprises at least two arrays of orifices and wherein one array prints the reactive ink and another array prints the fixer or the second reactive ink (element: 13a, 13b; figure: 18).

• The at least one other orifice prints a fixer (third reactive ink) (figure: 18, [0121]-[0122]).

• The printing is controlled by an electronic device (figure: 5-9).

Matsumoto et al. differs from the claim of the present invention is that:

• The fixer comprises a positively charged species, wherein the positively charged species is a polymer.

• The fixer is selected from the group consisting of poly(ethyleneimine).

• The fixer comprises polyethyleneimine and poly(biguanidine) or salts thereof.

• The ink includes at least two dyes.

Lavery et al. teaches that to get the sharp, high water-fastness, light-fastness and high optical density printed image, the inkjet printing process includes applying ink composition and applying fixing composition, wherein ink includes at least two dyes (page: 8, line: 5-10; 19-21). They also teach that the fixer comprises a positively charged species, wherein the positively charged species is a polymer (see Abstract; page: 3, line: 25-30).

• The fixer is selected from the group consisting of poly(ethyleneimine) (page: 3, line: 34).

• The fixer comprises polyethyleneimine and poly(biguanidine) or salts thereof (page: 3, line: 10-25).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the first reactive ink and second reactive ink of Matsumoto et al. by the aforementioned teaching of Lavery et al. in order to have the sharp, high water-fastness, light-fastness and high optical density printed image.

Response to Arguments

3. Applicant's arguments with respect to claims 1-32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Manish S. Shah
Primary Examiner
Art Unit 2853

MSS
12/6/07